UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,174	12/30/2003	Zbigniew Tokarski	3216.37US02	7834

24113 7590 02/24/2005

PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A.
4800 IDS CENTER
80 SOUTH 8TH STREET
MINNEAPOLIS, MN 55402-2100

EXAMINER	
RODEE, CHRISTOPHER D	

ART UNIT	PAPER NUMBER
1756	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/749,174	TOKARSKI ET AL.	
	Examiner	Art Unit	
	Christopher RoDee	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-26 is/are pending in the application.

4a) Of the above claim(s) 15-22 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-14 and 23-26 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-26 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4/23/04 10/14/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-14 and 23-26, drawn to a hydrazone compound and an organophotoreceptor, classified in class 430, subclass 79.

II. Claims 15-22, drawn to an imaging process, classified in class 430, subclass 117.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in another and materially different process, such as charging the surface of the organophotoreceptor, exposing the photoreceptor to a laser light, contacting the exposed surface of the photoreceptor with a dry toner, fixing the toner to the surface of the photoreceptor, and contacting the fixed toner with a clear coversheet to form a permanent visible image.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Kam Law, Reg. # 44,205, on 22 February 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-14

and 23-26. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-22 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3, 5-10, 12-14, and 23-25 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for formation of the claimed hydrazone compound where Y is the group $-O-CH_2-COH-CH_2-$, does not reasonably provide enablement for the scope of groups Y currently permitted. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The group Y in the hydrazone's general formula I is defined as "a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 1 and 20, inclusive, and one or more of the methylene groups is optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, an NR_8 group, a CHR_9 group, or a $CR_{10}R_{11}$ group where R_8, R_9, R_{10}, and R_{11} are, independently, H, hydroxyl group,

thiol group, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group". This definition permits any combination of the recited units, in any order, including the situation where no methylene units are present, or groups where all meyhlene units are present..

The specification teaches formation of the claimed hydrazone by reaction of two intermediate components, each having a hydrazone group (spec. p. 22, l. 5-6). The second intermediate is disclosed as having an epoxy group. "The second intermediate can be prepared by the reaction of the corresponding N-substituted hydrazone with an organic halide comprising an epoxy group under alkaline catalysis" (spec. p. 22, l. 12-15). Also as stated in the specification, "The organic halide comprising an epoxy group provides at least a portion of the linking group Y in Formula (1) above" (spec. p. 22, l. 15-16). "The charge transporting materials of this invention may be obtained by nucleophilic opening of the epoxy ring of the second intermediate with the hydroxyl group of the first intermediate in refluxing butanone in the presence of triethylamine" (spec. p. 22, l. 26-31). The specific compounds formed on pages 22-30 each use this reaction sequence. Each compound has a linking group $-O-CH_2-COH-CH_2-$ formed by reaction of the epoxy-containing hydrazone (2^{nd} intermediate) with a hydroxyl group of the other hydrazone (1^{st} intermediate). The specification is clearly enabled for the claimed compounds formed by this reaction sequence. However, the specification does not describe the reaction required to form any other groups within the scope of the claimed "Y". For example, the specification does not describe the reactants necessary to form an all methylene units chain for Y. The disclosed reaction of a hydroxyl-containing reactant and an epoxy-containing reactant will, by necessity, give an oxygen-containing methylene chain. There is no indication how to give an all methylene unit chain from the available disclosure because the available disclosure requires an intervening oxygen unit. Further, there is no disclosure of how to arrive at sulfur-containing chains, urethanes, ureas, ketones, esters, heterocyclics, etc. in any

combination or order for Y. Even though the level of skill in synthetic organic chemistry is high the specification provides no guidance of how to proceed or even where to start in producing a reasonable number of compounds within formula I. The artisan would be faced with undue experimentation to make the scope of charge transport compounds of the instant claims, as well as the photoreceptor and apparatus containing these compounds.

Lacking guidance from the specification and no other pertinent disclosures in the art of record the scope of the claims are not seen as being enabled.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

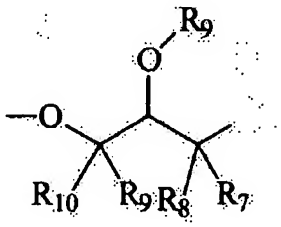
Claims 1-14 and 23-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Getautis *et al.* in US Patent Application Publication 2004/0106054.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Getautis discloses a charge transport compound, an organophotoreceptor containing the charge transport compound, and an imaging apparatus containing the organophotoreceptor (Abstract; ¶¶ [0007] – [0013]). The charge transport compound is described in ¶ [0027] and meets the requirements of the instant claims when considering exemplified compounds (2) – (6) (¶ [0060]). The photoreceptor has a photoconductive layer containing the charge transport compound, a charge generation compound, and, as optional components, a binder resin and an electron transport compound (¶¶ [0024], [0034] - [0036]). The imaging apparatus also contains a light-imaging component (¶ [0025]).

Applicant's claim for priority under § 119(e) is noted. This priority claim references a provisional application (60/443919) filed before the US filing date of the instant application. The priority document has been considered to determine if the instant claims are described by the priority document within the meaning of § 112, first paragraph.

A review of the priority document for the compound fails to show R_1, R_2, R_5, R_6, and R_7 can be a heterocyclic group (see corresponding R_1, R_2, R_5, R_{11}, and R_{12} in priority document). Further the priority document requires a trivalent aryl radical for X (same designation in priority document) while the instant claims permit any aryl. Thus, the instant claims permit further substituting groups on the aryl while the prior document does not permit further substitution (giving, for example, a quadravalent aryl). The priority document also limits the group corresponding to Y in the instant claims to the group:



The group Y in the claims is far broader and does not require the specifics of the priority document group above. The priority document also limits Z (R_6 in the priority document) to a carbazole group, a p-(N,N-disubstituted) arylamine group, or a julolidine group. The instant claims are far broader in scope.

Although the specific compounds of claim 26 are described in the priority document of the instant application, the priority application of Getautis also describes these same compounds at a date before the effective date of the § 119(e) priority document of the instant application. Thus, the rejection is maintained for these claims.

With respect to the organophotoreceptor, the above remarks for the compound are also applicable. Additionally, the only second charge transport material is an electron transport compound (priority document pp. 8-9). Other additional hole transport compounds, which are included within the scope of the claims, are not disclosed by the priority document. The priority document also requires at last on e photoconductive layer while the instant claims permit a photoconductive element. The claims are seen as broader than the supporting disclosure in the priority document

For the apparatus claims, the above remarks for the photoreceptor are also applicable. Further, the priority document also requires the presence of a plurality of supporting rollers for the apparatus, which are not present in the instant apparatus claims (see priority document claim 6; p. 4, top). The priority document is not seen as disclosing the claimed light imaging component or the liquid toner dispenser.

Double Patenting

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 4, 11 and 26 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 5, 8, and 20 of copending Application No. 10/644547. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

The compound, photoreceptor and apparatus in claims 4, 11 and 26 are the same as in the specified claims of the copending application. Note that the compounds and the structure and apparatus containing the claims are identical.

Claims 4, 11 and 26 are directed to the same invention as that of claims 5, 8, and 20 of commonly assigned application 10/644547. The issue of priority under 35 U.S.C. 102(g) and possibly 35 U.S.C. 102(f) of this single invention must be resolved.

Since the U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302), the assignee is required to state which entity is the prior inventor of the conflicting subject matter. A terminal disclaimer has no effect in this situation since the basis for refusing more than one patent is priority of invention under 35 U.S.C. 102(f) or (g) and not an extension of monopoly.

Failure to comply with this requirement will result in a holding of abandonment of this application.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3, 5-10, 12-14, and 23-25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 and 18-20 of copending Application No. 10/644547. Although the conflicting claims are not identical, they are not patentably distinct from each other because the exemplified compounds, photoreceptors, and apparatus in copending claims 5, 8, and 20 anticipate each of compounds, photoreceptors, and apparatus of the rejected claims. Further, the hydazone's general formulae in each of the copending application's independent claims (i.e., claims 1, 6, and 18) suggests compounds, photoreceptors, and apparatus within the scope of the instant claims, such as when X in the copending application is $-(CH_2)_4-$ with oxygen, sulfur, or NR' as a substituting group for the $-(CH_2)-$ next t the copending application's "Y" group and C-OH substitutes between two $-(CH_2)-$ groups.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited but unapplied art discloses hydrazone compounds functioning as charge transport compounds that are outside the scope of the instant claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
23 February 2005

CHRISTOPHER RODEE
PRIMARY EXAMINER